

# (12) UK Patent Application (19) GB (11) 2 323 611 (13) A

(43) Date of A Publication 30.09.1998

(21) Application No 9706002.4

(22) Date of Filing 22.03.1997

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(51) INT CL<sup>6</sup>  
**E04H 17/16**

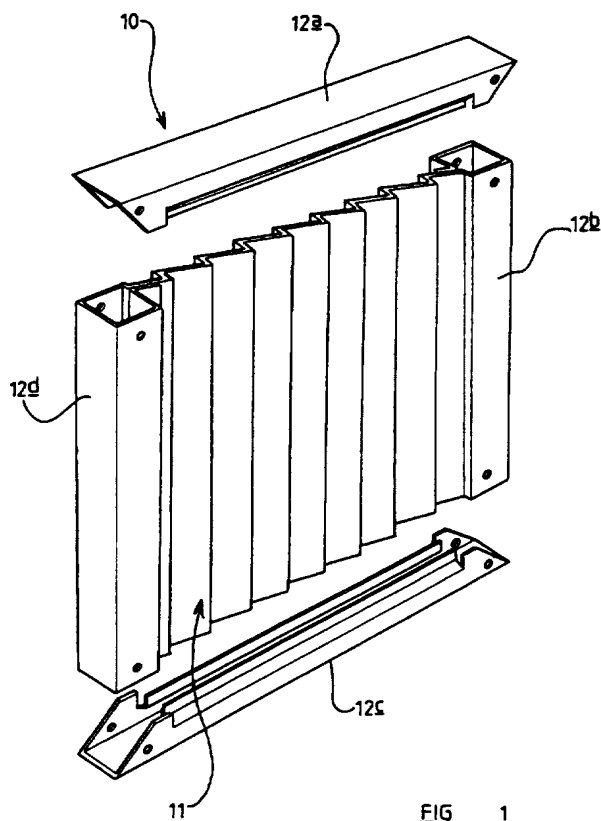
(52) UK CL (Edition P )  
**E1D DCF D1079 D2036 D2143 D402 D501 D505**

(56) Documents Cited  
**GB 1287357 A**

(58) Field of Search  
UK CL (Edition O ) **E1D DCF DLCKM DLCKN**  
**DLEKMNW DLEKMSV DLEKMSW**  
INT CL<sup>6</sup> **E04H**

(54) Abstract Title  
**A panel for a fencing system and a method of making the same**

(57) A fencing panel (10) comprising one or more frame members (12a, 12c) and an infill panel (11), the panel being securable to posts of a fencing system and comprising a metal sheet pre-coated with a weatherproof coating, and subsequently formed into a complex configuration, e.g. corrugated as shown to resemble lapped wooden fencing boards. The sheet may be folded so as to provide integral frame members (12b, 12d); the coating may comprise a plurality of layers, e.g. primer and paint and an outer coating which resembles wood in appearance.



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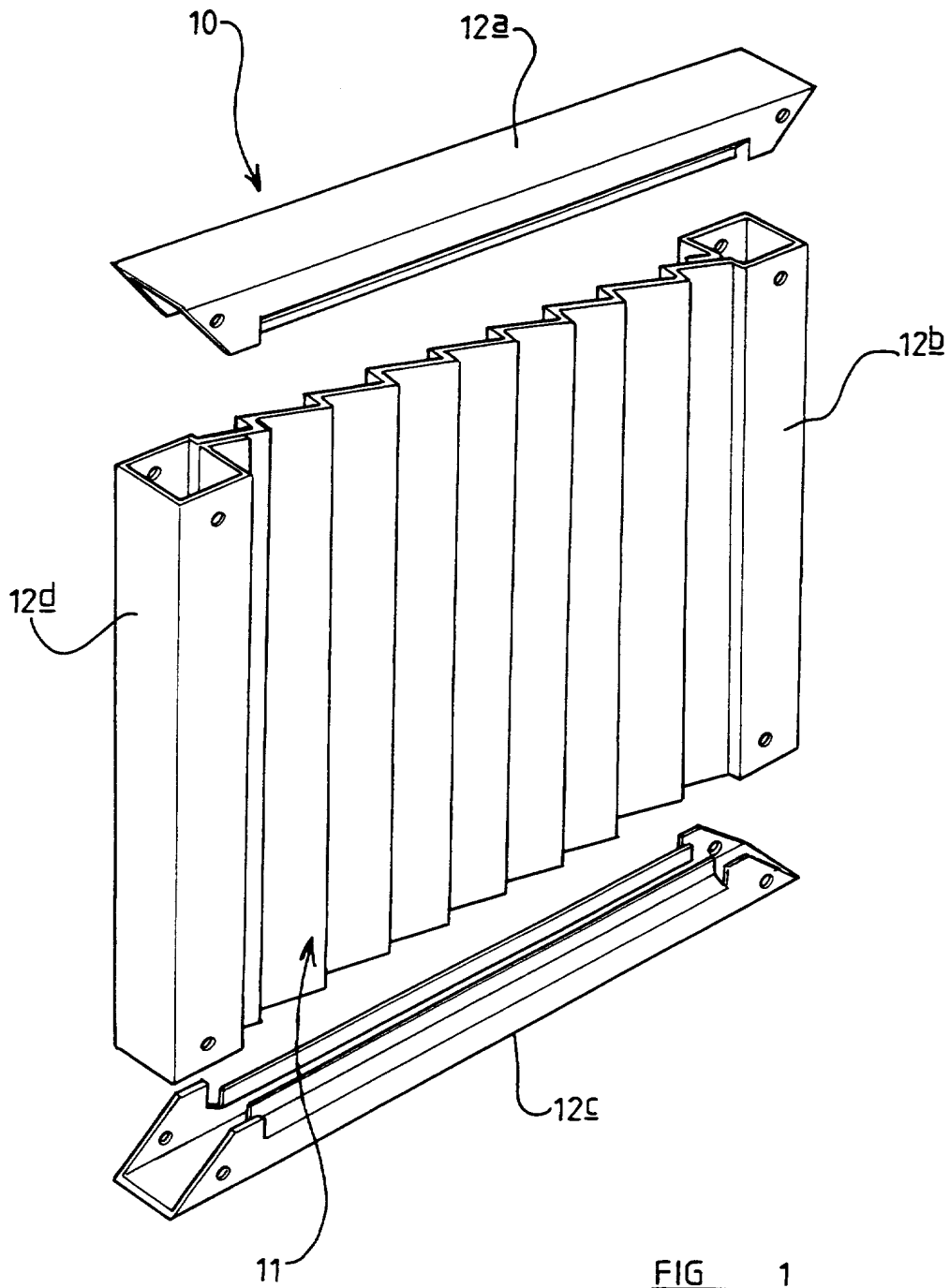
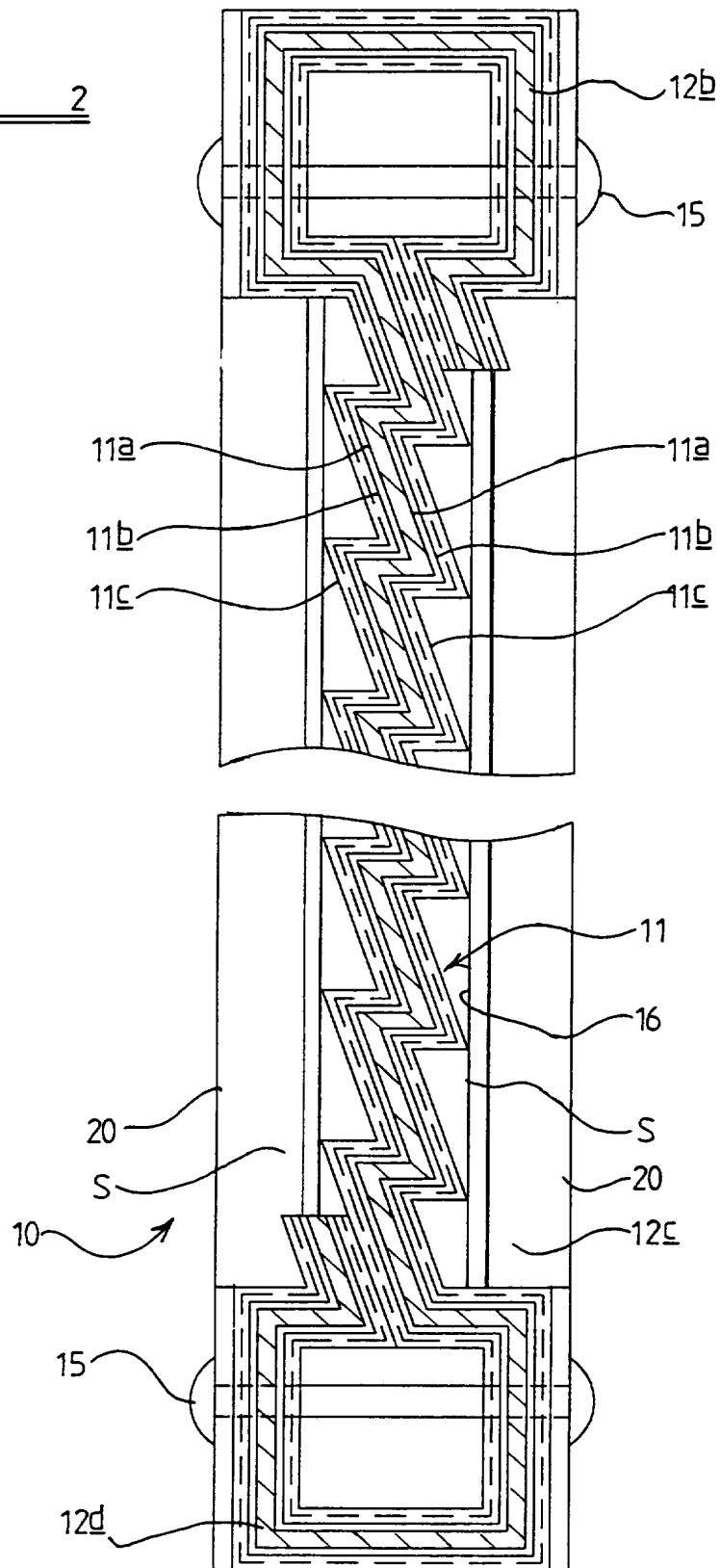


FIG 1

FIG 2



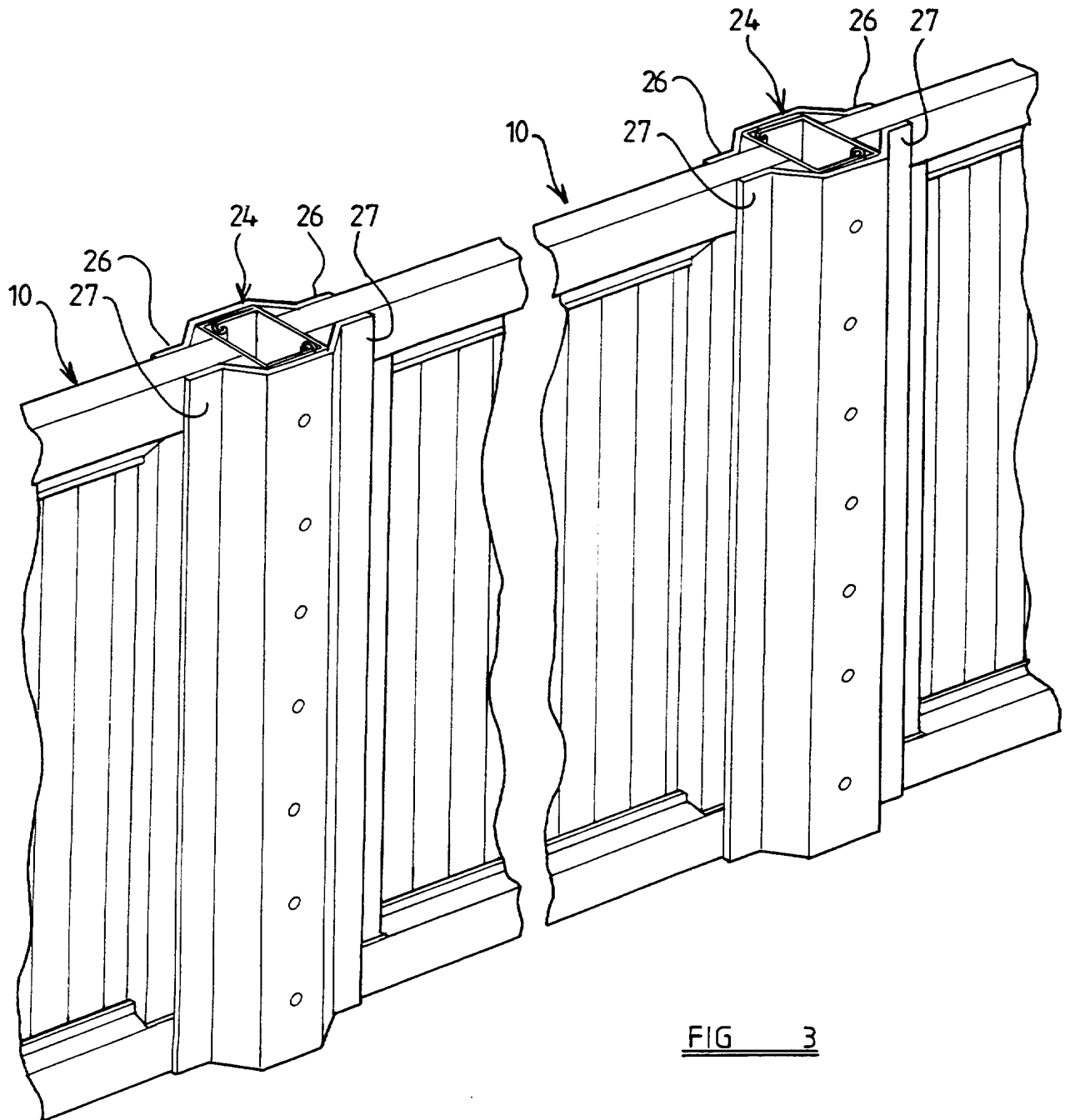


FIG 3

PATENTS ACT 1977

DJL/A9091GB

Title: A Fencing Panel for a Fencing System and Method of Making the Same

## Description of Invention

This invention relates to a fencing panel and to a method of making the same.

Fencing panels are most commonly made of timber and may comprise, for example, a plurality of overlapping or woven timber slats held in a timber frame. The panels may be secured to timber posts of a fencing system by fasteners such as nails, or to concrete posts which have pre-formed channels, by sliding in from the top.

Timber panels suffer from the disadvantage of requiring frequent maintenance, such as painting or creosoting, and particularly as they age, become mechanically less robust.

Hitherto there has been no obvious replacement for timber fencing panels, because of cost constraints and aesthetic considerations.

According to one aspect of the invention we provide a fencing panel comprising one or more frame members and an infill, the panel being adapted to enable the panel to be secured to posts of a fencing system, characterised in that at least the infill comprises a metal sheet pre-coated on both sides with a weatherproof protective coating, and subsequently being formed to a complex configuration.

It has been found that by fabricating a fencing panel having an infill made from metal sheet which is pre-coated on both sides with a suitable protective coating, a fencing panel may be provided which is both aesthetically pleasing and which can be made economically. Using metal sheet with a suitable protective coating, the panel may be substantially maintenance free for a long period, and should remain mechanically robust throughout its entire life.

Preferably the configuration to which the pre-coated sheet is formed

has the appearance on both sides of the fencing panel, of a plurality of overlapping or woven elongate timber slats arranged vertically, horizontally, diagonally or otherwise. Of course the coating on both sides of the metal infill, and the frame, may be of a sympathetic appearance, and may add to the effect of the panel appearing to be a timber fencing panel. Thus preferably the coating on both sides of the metal infill is identical.

Four channel shaped frame members may be provided, each being of generally re-entrant configuration and each extending along one side of the fencing panel, with the edge of that side of the infill received in the channel of the respective frame member.

Alternatively, the infill may be formed along at least one edge thereof to a frame like configuration.

Each frame member may comprise a metal sheet or strip formed to a re-entrant configuration and being pre-coated on an outside surface at least with a protective coating similar to the coating of the infill.

The weatherproof protective coating of the infill may have a plurality of layers. The finishing layer may comprise a so-called organic layer having a matt appearance which may resemble timber. Adjacent the metal, there may be a layer of primer and there may be an intermediate layer of paint. Where the metal of the infill is steel, this may be pre-galvanised.

According to a second aspect of the invention we provide a fencing system comprising a plurality of fencing panels according to the first aspect of the invention.

According to a third aspect of the invention we provide a method of manufacturing a fencing panel comprising taking a sheet of metal pre-coated on both sides thereof with a weatherproof protective coating, and forming the pre-coated sheet to a complex configuration to provide a panel infill, taking a sheet or strip of pre-coated metal and forming the sheet or strip to a channel configuration to provide a frame member for the panel, securing the formed frame member to one edge of the infill with the edge of the infill received in the

channel.

The method may include the step of forming the pre-coated metal sheet for the infill, with a plurality of troughs and crests so that the infill has the appearance on both sides, of a fencing panel comprising a plurality of overlapping elongate timber slats arranged either vertically or horizontally.

The method may include the step of forming four frame members, one for each edge of the infill, and may include mitring the ends of at least one of the members to provide a corner joint. Alternatively, a frame like configuration may be integrally formed along at least one edge of the infill.

The panel may be arranged to resemble different styles of timber panels. For example only, the method may include the step of providing apertures in the infill, subsequent to forming, and prior to or subsequent to securing the infill to one or more frame members, so that the fencing panel resembles a timber panel with latticework above it.

Whereas it is preferred for the infill to be formed from a single sheet of metal pre-coated on both sides thereof, if desired a plurality of infill elements may be assembled together to provide an infill for mounting in a frame comprising a plurality of frame members.

According to a fourth aspect of the invention we provide a method of erecting a fencing system comprising taking a plurality of fencing panels made by a method according to the third aspect of the invention, and a plurality of fencing posts, and securing each of the fencing panels to a pair of fencing posts.

The invention will now be described with reference to the accompanying drawings in which:-

FIGURE 1 is an exploded perspective view of a fencing panel according to the invention;

FIGURE 2 is a purely illustrative enlarged plan sectional view through part of the panel of figure 1, when assembled;

FIGURE 3 is an illustrative view of an example of part of a fencing system in accordance with the invention.

Referring to the drawings, the fencing panel 10 comprises an infill 11 which in use is received in a frame. The frame may be made up of four frame members but in this example, comprises a pair of frame members 12<sup>a</sup>, 12<sup>d</sup> and a pair of frame like formations 12<sup>b</sup>, 12<sup>c</sup> formed integrally along the edges of the infill 11. Generally the infill 11 comprises a metal sheet which is formed to a configuration so as to have the appearance of a timber fencing panel infill, comprising a plurality of overlapping timber slats.

The metal sheet from which the infill 11 is formed, comprises a metal sheet, which may be of pre-galvanised steel, or aluminium for examples, which is pre-coated on both sides thereof with a multi-layer, weatherproof protective coating. The coating comprises a layer 11<sup>a</sup> of primer, a layer of paint 11<sup>b</sup>, and a surface finishing layer 11<sup>c</sup> being an organic layer, which is mechanically very robust.

The infill 11 is formed with a plurality of generally regularly spaced troughs and crests to give the appearance of overlapping timber panels and the colour and/or texture of the finished surface layer of the coating on both sides, may be such as to mimic the colour and/or texture of timber.

In the example shown, the troughs and crests of the infill 11 extend generally vertically upright in use although it will be appreciated, that these could be arranged generally horizontally if desired.

The frame members 12<sup>a</sup>, 12<sup>c</sup> are also formed from pre-coated metal sheet or strip. At least the outside surfaces of each of the frame members 12<sup>a</sup>, 12<sup>c</sup> are provided with the coating, although again, preferably the coating is provided on both sides of the metal to give maximum protective effect.

Each of the frame members 12<sup>a</sup>, 12<sup>c</sup> and the frame like formations 12<sup>b</sup>, 12<sup>d</sup> comprise a generally re-entrant channel configuration. Each frame member 12<sup>a</sup>, 12<sup>c</sup> is adapted to receive an edge of the infill 11. The frame members 12<sup>a</sup>, 12<sup>c</sup> and the infill 11 may be secured together by means of fasteners such as rivets 15 which may be positioned and of a colour/configuration so as not obviously to be visible.



It will be appreciated by virtue of the configuration of the infill 11, the frame members 12<sup>a</sup>, 12<sup>c</sup> which extend transversely to the troughs and crests of the infill 11, may need to present a channel opening 16 of a slightly greater width than the corresponding channel opening 17 provided by the frame members 12<sup>b</sup> and 12<sup>d</sup> which extend generally parallel with the troughs and crests of the infill 11 although this is not shown in the example in the drawings.

Referring particularly to Figure 2, it will be appreciated that by virtue of the zig-zag configuration provided by the troughs and crests, portions 20 of the channel edges of the respective frame members 12<sup>a</sup> and 12<sup>c</sup> which extend transversely to the troughs and crests of the infill 11, will allow there to be small spaces to the interior of the channel shaped frame members 12<sup>a</sup> and 12<sup>c</sup>. These portions 20 may be overturned by suitable metal forming to produce a blunt edge, and/or the frame members 12<sup>a</sup> and 12<sup>c</sup> may be configured such that the space S may be at least partially closed by bending over such metal. In this way, the ability of water to pool within the channel 12<sup>a</sup>, 12<sup>c</sup> at the bottom of the fencing panel 10 at least, would be restricted.

In any event, one or more of the frame members 12<sup>a</sup> to 12<sup>d</sup> may be apertured to permit the escape of water which may accumulate therein and/or to facilitate connection of the fencing panel 10 to fencing posts of a fencing system.

A fencing panel 10 in accordance with the invention may be used as a replacement for an existing old timber panel, by removing the timber panel and then securing the new fencing panel 10 to two posts of the fencing system. Such posts may be timber posts, or pre-formed concrete posts having channels to receive the integral side frame like formations 12<sup>b</sup> and 12<sup>d</sup> of the replacement fencing panel 10.

If desired however, the fencing panel 10 may be secured to posts in which channels to receive the frame formations 12<sup>b</sup> and 12<sup>d</sup> of the frame 10 are fabricated on site. Such an arrangement is shown in Figure 3.

Each fencing post 24 comprises a timber or metal core 25 e.g. of composite pressed section. When such a post 24 is positioned, fencing panels 10

may be placed either side in position as shown.

The panels 10 are secured in position utilising cover elements 26, 27 which embrace the posts 24 and provide retention for the side frame-like formations 12<sup>b</sup>, 12<sup>d</sup> of the adjacent panels 10. The elements 26, 27 may be fixed in position by any suitable fasteners, such as rivets as shown.

The panels 10 shown may be full size 6 ft x 6 ft panels, but may be of other dimensions. The fencing panels 10 may comprise or be used as gravel boards, to retain ground.

Other configurations are no doubt possible.

The features disclosed in the foregoing description, or the following claims, or the accompanying drawings, expressed in their specific forms or in terms of a means for performing the disclosed function, or a method or process for attaining the disclosed result, as appropriate, may, separately or in any combination of such features, be utilised for realising the invention in diverse forms thereof.

## CLAIMS

1. A fencing panel comprising one or more frame members and an infill, the panel being adapted to enable the panel to be secured to posts of a fencing system, characterised in that at least the infill comprises a metal sheet pre-coated on both sides with a weatherproof protective coating, and subsequently being formed to a complex configuration.
2. A fencing panel according to claim 1 characterised in that the configuration to which the pre-coated sheet is formed has the appearance on both sides of the fencing panel, of a plurality of overlapping or woven elongate timber slats.
3. A fencing panel according to claim 1 or claim 2 characterised in that the frame comprises at least one channel shaped frame member of generally re-entrant configuration and each extending along one side of the fencing panel, with the edge of that side of the infill received in the channel of the respective frame member.
4. A fencing panel according to claim 3 characterised in that the or each frame member comprises a metal sheet or strip formed to the re-entrant channel configuration and being pre-coated on an outside surface at least with a protective coating similar to the coating of the infill.
5. A fencing panel according to any one of claims 1 to 4 wherein the infill is formed along at least one edge thereof, to a frame like configuration.
6. A fencing panel according to any one of the preceding claims characterised in that the weatherproof protective coating of the infill comprises a so-called organic coating having a plurality of layers and a matt appearance

resembling timber.

7. A fencing panel according to claim 6 characterised in that the coating comprises a plurality of layers.
8. A fencing panel according to claim 7 wherein the coating comprises a finishing layer being a so-called organic layer having a matt appearance and being mechanically robust.
9. A fencing panel according to claim 7 or claim 8 wherein the coating includes a layer of primer adjacent the metal.
10. A fencing panel according to any one of claims 7 to 9 wherein the coating comprises a layer of paint.
11. A fencing panel substantially as hereinbefore described with reference to and as shown in the accompanying drawings.
12. A fencing system comprising a plurality of fencing panels according to any one of the preceding claims.
13. A method of manufacturing a fencing panel comprising taking a sheet of metal pre-coated on both sides thereof with a weatherproof protective coating, and forming the pre-coated sheet to a complex configuration to provide a panel infill, taking a sheet or strip of pre-coated metal and forming the sheet or strip to a channel configuration to provide a frame member for the panel, securing the formed frame member to one edge of the infill with the edge of the infill received in the channel.
14. A method of manufacturing a fencing panel according to claim 13

characterised in that the method includes the step of forming the pre-coated metal sheet for the infill, with a plurality of troughs and crests so that the infill has the appearance on both sides, of a fencing panel comprising a plurality of overlapping elongate timber slats arranged either vertically or horizontally.

15. A method of manufacturing a fencing panel according to claim 13 or claim 14 characterised in that the method includes the step of mitring the end of the or one of the frame members to provide corner joint.

16. A method of manufacturing a fencing panel according to any one of claims 13 to 15 wherein a frame-like configuration is integrally formed along at least one side of the infill.

17. A method of manufacturing a fencing panel according to any one of claims 13 to 16 characterised in that the method includes the step of providing apertures in the infill, subsequent to forming, and prior to or subsequent to securing the infill to one or more frame members.

18. A method of manufacturing a fencing panel according to any one of claims 13 to 17 which includes assembling a plurality of infill elements to provide an infill for mounting in a frame comprising a plurality of frame members.

19. A method of manufacturing a fencing panel according to substantially as hereinbefore described with reference to the accompanying drawings.

20. A method of erecting a fencing system comprising taking a plurality of fencing panels made by a method according to any one of claims 13 to 19, and a plurality of fencing posts, securing each of the fencing panels to a pair of fencing posts.

21. A method of erecting a fencing system substantially as hereinbefore described with reference to the accompanying drawings.
22. Any novel feature or novel combination of features described herein and/or in the accompanying drawings.



Application No: GB 9706002.4  
Claims searched: 1 - 21

Examiner: J D Cantrell  
Date of search: 15 April 1997

**Patents Act 1977**  
**Search Report under Section 17**

**Databases searched:**

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:  
UK Cl (Ed.O): E1D: DCF, DLCKM, DLCKM, DLEKMNW, DLEKMSV, DLEKMSW  
Int Cl (Ed.6): E04H  
Other:

**Documents considered to be relevant:**

Category	Identity of document and relevant passage	Relevant to claims
X	GB 1287357 LIPS	1, 3, 12

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

**DERWENT-ACC-NO:** 1998-469880**DERWENT-WEEK:** 199841*COPYRIGHT 2009 DERWENT INFORMATION LTD*

**TITLE:** Fencing panel for fencing system  
secured to fencing post and  
configured with lapped wooden  
timber board appearance and  
having metal frame members which  
receives metal infill along  
infill edges

**INVENTOR:** WHITEHEAD J**PATENT-ASSIGNEE:** ALLFOR INVESTMENTS LTD[ALLFN]**PRIORITY-DATA:** 1997GB-006002 (March 22, 1997)**PATENT-FAMILY:**

<b>PUB-NO</b>	<b>PUB-DATE</b>	<b>LANGUAGE</b>
GB 2323611 A	September 30, 1998	EN

**APPLICATION-DATA:**

<b>PUB-NO</b>	<b>APPL-DESCRIPTOR</b>	<b>APPL-NO</b>	<b>APPL-DATE</b>
GB 2323611A	N/A	1997GB-006002	March 22, 1997

**INT-CL-CURRENT:**



**TYPE**

CIPS

**IPC DATE**

E04H17/16 20060101

**ABSTRACTED-PUB-NO:** GB 2323611 A**BASIC-ABSTRACT:**

The panel (10) has a weatherproof coated metal sheet infill, configured with an appearance of a timber fencing panel infill comprising overlapping timber slats. The frame is made up of a pair of frame members (12a and 12d) and a pair of frame like formations (12b and 12c), which comprise a re-entrant channel configuration and is formed integrally along the infill edges, thus receiving the infill and secured together using rivets.

Each frame member is formed from pre-coated metal sheets, with the coating provided on both sides to give maximum protective effect and in any event, they can be apertured to permit the escape of water which may accumulate or facilitate connection of the fencing panel to fencing posts of a fencing system. The panel can be used as a replacement for an existing old timber panel, by removing the timber panel and then securing the panel to two posts of a fencing system.

ADVANTAGE - No frequent maintenance required and does not become mechanically less robust with time.

**CHOSEN-DRAWING:** Dwg.1/3

**TITLE-TERMS:** FENCE PANEL SYSTEM SECURE POST  
CONFIGURATION LAP WOOD TIMBER  
BOARD APPEAR METAL FRAME MEMBER  
RECEIVE INFILL EDGE

**DERWENT-CLASS:** Q46

**SECONDARY-ACC-NO:**

**Non-CPI Secondary Accession Numbers:** 1998-366333